Amendment to the Description

Please replace paragraphs at page 9, lines 26 through page 11, lines 10 with the following amended paragraphs:

Turning now to Fig. 4, an exemplary OFDM receiver ~~60~~ 200 is configured to receive an RF-modulated OFDM carrier signal from a remote location. An RF receiver ~~70~~ 205 typically includes an antenna ~~72~~ 210, a low noise amplifier (LNA) ~~74~~ 215, an RF band-pass filter ~~76~~ 220, an automatic gain control (AGC) circuit ~~77~~ 225, an RF mixer ~~78~~ 230, an RF carrier frequency local oscillator (LO) ~~80~~ 235, and an analog band-pass filter ~~82~~ 240. RF receivers are well known in the art and may include many variations, such as using a single mixing stage, and providing additional signal conditioning: e.g., amplifiers, filters, and/or attenuators.

Through the antenna ~~72~~ 210, the RF receiver ~~70~~ 205 couples in the RF OFDM-modulated carrier signal after it has passed through a wireless channel. Then, by mixing the received signal with a receive carrier of frequency f_{RF}, generated by the RF LO ~~80~~ 235, the RF receiver ~~70~~ 205 down-converts the RF OFDM-modulated carrier signal to obtain an intermediate frequency (IF) OFDM signal. Thus, one source of phase error results from the frequency difference between the receive carrier and the transmit carrier, thereby contributing to a carrier frequency offset, ÿf_c.

Further, the received IF OFDM signal then feeds into both a first IF mixer ~~84~~ 245' and a second IF mixer ~~86~~ 245", to be mixed with an in-phase IF signal and a 90° phase-shifted (quadrature) IF signal, respectively, to produce in-phase (I) and quadrature (Q) OFDM analog baseband signals, respectively. The in-phase OFDM signal that feeds into the first IF mixer ~~84~~ 245' is produced by an IF LO ~~88~~ 250. The 90° phase-shifted IF signal that feeds into the second IF mixer ~~86~~ 245" is derived from the in-phase IF signal of the IF LO ~~88~~ 250, by passing the in-phase IF signal through a 90° phase shifter 90 before feeding it to the second IF mixer ~~86~~ 245".

The in-phase and quadrature OFDM signals then pass into respective analog-to-digital (A/D) converters ~~92~~ 260' and ~~93~~ 260", within which they are digitized at a sampling rate determined by a local clock circuit ~~94~~ 265. The A/D converters ~~92~~ 260', ~~93~~ 260" produce digital

samples that respectively form in-phase and quadrature discrete-time OFDM signals. The difference between the sampling (i.e., clock) rates of the receiver and that of the remote transmitter leads to another source of phase error, referred to as the sampling rate offset,

$$\ddot{y}f_{ck} = \ddot{y}f_{ck\_R} - \ddot{y}f_{ck\_T}. \qquad (1)$$

The unfiltered in-phase and quadrature discrete-time OFDM signals from the A/D converters 260', 260" ~~92, 94~~ then generally pass through respective digital low-pass filters ~~96~~ 270'
and ~~98~~ 270". The output of low-pass digital filters ~~96~~ 270' and ~~98~~ 270" respectively provide filtered in-phase and quadrature samples of the received OFDM signal. In this way, the received OFDM signal, is converted into in-phase and quadrature samples that represent the real and imaginary-valued components, respectively, of the complex-valued OFDM signal. These in-phase and quadrature samples of the received OFDM signal are then delivered to a digital signal processor (DSP) ~~100~~ 275 for further processing. Note that in some conventional implementations of the receiver 60, the A/D conversion is done before the IF mixing process. In such an implementation, the mixing process involves the use of digital mixers and digital frequency synthesizer. Also note that in many conventional implementations of the receiver ~~60~~ 200, the A/D conversion is performed after the filtering.